IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: **Taylor et al.** §	
§	Group Art Unit: **3714**
Serial No. **10/038,405** §	
§	Examiner: **Ronald Laneau**
Filed: **January 3, 2002** §	
§	
For: **Method and Apparatus for** §	
Optimizing a Security Database for a §	
Self-Service Checkout System	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

                                    39698
                          PATENT TRADEMARK OFFICE
                              CUSTOMER NUMBER

APPEAL BRIEF (37 C.F.R. 41.37)

This brief is in furtherance of the Notice of Appeal, filed in this case on March 30, 2007.

A fee of $500.00 is required for filing an Appeal Brief. Please charge this fee to IBM Corporation Deposit Account No. 50-0563. No additional fees are believed to be necessary. If, however, any additional fees are required, I authorize the Commissioner to charge these fees, which may be required to IBM Corporation Deposit Account No. 50-0563. No extension of time is believed to be necessary. If, however, an extension of time is required, the extension is requested, and I authorize the Commissioner to charge any fees for this extension to IBM Corporation Deposit Account No. 50-0563.

REAL PARTY IN INTEREST

The real party in interest in this appeal is the following party: International Business Machines Corporation of Armonk, New York.

RELATED APPEALS AND INTERFERENCES

With respect to other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal, there are no such appeals or interferences.

STATUS OF CLAIMS

A.   TOTAL NUMBER OF CLAIMS IN APPLICATION

Claims in the application are: 1-17.

B.   STATUS OF ALL THE CLAIMS IN APPLICATION

1.   Claims canceled: 18-20.

2.   Claims withdrawn from consideration but not canceled: None.

3.   Claims pending: 1-17.

4.   Claims allowed: None.

5.   Claims rejected: 1-20.

6.   Claims objected to: None.

C.   CLAIMS ON APPEAL

The claims on appeal are: 1-17.

STATUS OF AMENDMENTS

An Office Action was mailed October 5, 2004; the Response to Office Action was filed December 9, 2004; A Final Office Action was mailed February 23, 2005; a Response to Final Office Action was filed May 23, 2005; an Advisory Action was mailed June 2, 2005; a Request for Continued Examination and Petition for Extension of Time was filed July 20, 2005; an Office Action was mailed March 14, 2006; a Response to Office Action was filed June 14, 2006; an Office Action was mailed August 28, 2006; a Response to Office Action was filed November 22, 2006; a Final Office Action was mailed January 30, 2007; a Notice of Appeal was filed March 30, 2007.

SUMMARY OF CLAIMED SUBJECT MATTER

A.   CLAIM 1 - INDEPENDENT

The subject matter of claim 1 is directed to a method of optimizing a value associated with a characteristic of a product stored in a first field of a security database of a self-checkout system at an optimizing time. (Specification page 9, lines 18-27.)

The security database includes a second field for storing identification information for the product. (Specification page 7, lines 9-11.)

The security database includes a third field for storing a last time when the value was last updated. (Specification page 10, lines 35-36.)

The security database includes a fourth field for storing at least one new value for the characteristic stored in the first field between the last time and the optimizing time. (Specification page 10, line 41, through page 11, line 14.)

The value is used in a comparison to a second value associated with the characteristic and detected in a security area of the self-checkout system during a purchasing transaction. (Specification page 7, lines 13-16.)

The comparison is used as a security measure to confirm that a product placed in the security area during the purchasing transaction is the same product identified by the system after the system identifies the product via identification information input by a user of the system. (Specification page 7, lines 13-18.)

The method comprises querying the database for products having a time difference between the optimizing time and the last time that is greater than a predetermined period and having at least one new value for the characteristic, wherein the query establishes a query result. (Specification page 12, lines 13-18.)

The method also comprises revising the value for each product in the query result using the new value. (Specification page 12, lines 24-27.)

B.   CLAIM 15 - INDEPENDENT

The subject matter of claim 15 is directed to an apparatus for optimizing characteristic information comprising a value for a characteristic of a product stored in a security database of a self-checkout system. (Specification page 9, lines 18-27.)

The security database includes update information comprising a time that the characteristic information has last been updated and correction history information including recorded samples each comprising a new value for said characteristic information. (Specification page 10, lines 35, through page 11, line 14.)

The characteristic information is used to compare to a second value associated with the characteristic detected by a security device of the self-checkout system. (Specification page 7, lines 13-16.)

The characteristic information is used as a security measure to confirm that a product placed in the security area is the same product identified by the system after identification information of the product is input by a user of the system. (Specification page 7, lines 13-18.)

The apparatus comprises querying means for querying the database for products having the update information older than a predetermined period of time and having correction history information for the measurable characteristic comprising recorded samples greater than a predetermined amount, wherein the query establishes a query result. (Specification page 12, lines 13-18.)

The apparatus also comprises revising means for revising the value of the characteristic information in the security database for each product in the query result using the recorded samples. (Specification page 12, lines 24-27.)

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection to review on appeal are as follows:

1.   Whether claims 1-20 are obvious over *Lee et al.*, <u>Self-Checkout Apparatus</u>, U.S. Patent No. 6,837,428, dated January 4, 2004 (hereinafter referred to as "*Lee*") in view of *Flynn*, <u>System and Method for Enhancing Security at a Self-Checkout Station</u>, U.S. Patent Application Publication No. 2003/0122667, published July 3, 2003 (hereinafter referred to as "*Flynn*") under 35 U.S.C. §103(a).

ARGUMENT

A. GROUND OF REJECTION 1 (Claims 1-20)

The Examiner rejected claims 1-20 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 6,837,428 issued to *Lee* in view of U.S. Patent Application Publication 2003/0122667 published by *Flynn*. This position is not well-founded.

A.1. Claims 18-20

Claims 18-20 were canceled in the Response After Final that was mailed May 23, 2005. In the Response to Office Action, which was filed November 22, 2006, Applicants indicated that claims 18-20 were canceled, both in the Amendments to the Claims and in the Remarks.

A.2. Claim 1

Claim 1 recites: A method of optimizing a value associated with a characteristic of a product stored in a first field of a security database of a self-checkout system at an optimizing time, said security database also including a second field for storing identification information for said product, a third field for storing a last time when said value was last updated and a fourth field for storing at least one new value for said characteristic stored in said first field between said last time and said optimizing time, said value being used in a comparison to a second value associated with said characteristic and detected in a security area of said self-checkout system during a purchasing transaction, said comparison used as a security measure to confirm that a product placed in said security area during said purchasing transaction is the same product identified by said system after said system identifies said product via identification information input by a user of said system, said method comprising querying said database for products having a time difference between said optimizing time and said last time greater than a predetermined period and having at least one new value for said characteristic, wherein said query establishes a query result, and revising said value for each product in said query result using said new value.

Thus, Applicants claim a value that is associated with a characteristic of a product. This value is stored in a first field in a database. The time this value was last updated is stored in a

third field in the database as a last time. A new value for the product is stored in a fourth field in the database.

Applicants claim four different time periods: an optimizing time, a last time, a time difference, and a predetermined period. The optimizing time is the time this optimization process is taking place. As discussed above, the last time is the time the value for the product was last updated. A time difference is determined between the optimizing time and the last time for the product. The time difference is then compared to the predetermined period. If the time difference is greater than the predetermined period, the product becomes part of the query result.

Applicants claim querying the database to locate products that have a new value. In addition to having a new value, in order to be returned in the query result, the product must also have a time difference between the optimizing time and a last time that is greater than the predetermined period. The "optimizing time" is the time when this optimization process is taking place. The "last time" is the time when the value was last updated.

A calculation is determined. This calculation is a calculation of the time difference between the optimizing time and the last time. This calculation is then made for the products in the database.

The database is queried for products that have a time difference that is greater than a predetermined period. Thus, for the products in the database, a calculation is made, and then the result of this calculation is compared to a predetermined period. The database is queried for the products that have a result of the calculation that is greater than the predetermined period.

Lee teaches a self-checkout apparatus that includes a BOSS controller that controls database information for lanes. Each lane includes a copy of the database. At predetermined intervals, the database between the BOSS controller and the lanes is updated. *Lee*, column 6, lines 2-9. *Lee* does not provide any specific teaching about when a database is updated other than to say that it occurs at predetermined intervals.

Lee teaches a customer placing an item on a conveyor, which weighs/measures the item and compares it to the corresponding data in a security database. If the item's weight/measurement matches the corresponding data in the security database, the item proceeds down the conveyor, ultimately to a bagging area.

Applicants claim a security database in which are stored a value, a new value, and a last time the value was last updated. The Examiner relies on *Lee* to teach these features. Applicants respectfully disagree that *Lee* teaches these features.

Lee teaches a database that can be updated, and also teaches the database storing weight/measurement data for items. According to *Lee*, the weight/measurement data can be updated. *Lee* does not teach, however, both a value and a new value being stored for a product. *Lee* does not teach storing two values of the weight/measurement for the same item. *Lee* teaches merely that weight/measurement data is stored, and then this data is updated. The database of *Lee* does not store both the original data and the updated data at the same time. Therefore, *Lee* does not teach this feature.

Applicants also claim a third field for storing a last time when the value was last updated. Thus, Applicants claim storing a <u>time</u>. *Lee* does not teach storing a time. *Lee* teaches merely that a security database can store <u>data</u> about the weight/measurement of an item. *Lee* does not teach storing a <u>time</u> that this data was updated. Therefore, *Lee* does not teach this feature.

Applicants also claim querying a database for products that have a time difference between the optimizing time and the last time that is greater than a predetermined period. Thus, a time difference must be determined. The time difference that must be determined is the time difference between the optimizing time and the last time that the value for this product was last updated. This time difference is then compared to a predetermined period.

Lee does not teach determining a time difference for a product. In *Lee*, there is an interval between each update of the database. While this interval does <u>exist</u>, it is not <u>determined</u> for a product. Therefore, *Lee* does not teach querying for products that have a time difference that is greater than a predetermined period.

The Examiner states that *Lee* obviously teaches a time difference between the optimizing time value and the last time value. Applicants do not claim merely the existence of a time difference. Applicants claim <u>querying</u> the database for products that have a time difference that is greater than a predetermined period. *Lee* does not teach querying for the time interval between each update. Since *Lee* does not teach <u>querying</u> the database for products that have a time difference that is greater than a predetermined period, *Lee* does not teach this feature.

Lee also does not teach a time difference that is greater than a predetermined period. *Lee* teaches updating a database at a predetermined interval. The predetermined interval taught by *Lee* is not analogous to a predetermined period as claimed by Applicants.

In *Lee*, when a predetermined interval occurs, a database is updated. At the next predetermined interval, the database is updated again. Thus, the time between updates cannot exceed the predetermined interval. The predetermined interval dictates when an update of the database <u>must</u> occur.

According to Applicants' claims, there is an optimizing time when a value was stored and a last time when the value was last updated. The time difference between the optimizing time and the last time can be greater than the predetermined period. The predetermined period does not dictate the time difference. In fact, it is those products that <u>do</u> have a time difference that is greater than the predetermined period that are returned in the query result. In contradistinction, in *Lee*, it is impossible for anything stored in the database to have a time difference that is greater than the predetermined interval. Therefore, *Lee* does not teach a time difference that is greater than a predetermined period.

The Examiner states that *Lee* does not teach comparing each search term to keywords associated with each product and states that *Flynn* discloses querying for products, which includes comparing each search term to keywords associated with each product.

The Examiner relies on *Flynn* to cure the deficiencies of *Lee*. *Flynn* merely teaches querying a product database for product data such as weight and price. See *Flynn*, page 3, paragraph 0025. A unit product code (UPC) is determined from a scanner that scans a product. The UPC is used to query a database for product data such as weight and price. *Flynn* does not teach querying a database for products having a time difference between an optimizing time and a last time that is greater than a predetermined period and having at least one new value for the characteristic.

Applicants claim querying for products that have a time difference. This is not a comparison of a search term to a keyword. A time difference between the optimizing time and a last time must be determined. <u>Determining</u> a time difference between the optimizing time and a last time is not a comparison of search terms. A "time difference" is not a keyword or search term.

Once the time difference is determined, it must be determined whether the time difference is greater than a predetermined period. Again, this is not a comparison of a search term to a keyword. <u>Determining</u> whether the time difference is greater than a predetermined period is not either a keyword or a comparison of search terms.

Applicants claim querying the database for products that have both (1) a time difference that is greater than a predetermined period, and (2) at least one new value. Thus, the products that are returned as part of the query result must meet two criteria. *Flynn* teaches querying for product data, but does not teach querying for products that meet two criteria.

The combination of *Lee* and *Flynn* does not teach querying for products that have a time difference that is greater than a predetermined period. The combination of *Lee* and *Flynn* does not teach determining a time difference for a product. The combination of *Lee* and *Flynn* does not teach comparing a time difference to a predetermined period. The combination of *Lee* and *Flynn* does not teach querying the database for products that have both (1) a time difference that is greater than a predetermined period, and (2) at least one new value.

Flynn does not cure the deficiencies of *Lee* for the reasons given above. Therefore, the combination of *Lee* and *Flynn* does not render Applicants' claims obvious.

A.3.   Claim 15

Applicants' claim 15 recites: An apparatus for optimizing characteristic information comprising a value for a characteristic of a product stored in a security database of a self-checkout system, said security database including update information comprising a time that said characteristic information has last been updated and correction history information including recorded samples each comprising a new value for said characteristic information, said characteristic information used to compare to a second value associated with said characteristic detected by a security device of said self-checkout system, said characteristic information used as a security measure to confirm that a product placed in said security area is the same product identified by said system after identification information of said product is input by a user of said system, said apparatus comprising querying means for querying said database for products having said update information older than a predetermined period of time and having correction history information for said measurable characteristic comprising recorded samples greater than a predetermined amount, wherein said query establishes a query result, and revising means for

revising said value of said characteristic information in said security database for each product in said query result using said recorded samples.

As discussed above, the combination of *Lee* and *Flynn* does not teach or suggest a database that includes a time. Therefore, the combination does not teach or suggest said security database including update information comprising a <u>time</u> that said characteristic information has last been updated. Therefore, the combination does not render Applicants' claims obvious.

Also as discussed above, the combination of *Lee* and *Flynn* does not teach or suggest querying means for querying said database for products having said update information older than a predetermined period of time. Therefore, the combination does not render Applicants' claims obvious.

A.4. Claims 2-14 and 16-17

These claims depend from one of the independent claims and are patentable for the reasons given above.

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CLAIMS APPENDIX

The text of the claims involved in the appeal are:

1.   A method of optimizing a value associated with a characteristic of a product stored in a first field of a security database of a self-checkout system at an optimizing time, said security database also including a second field for storing identification information for said product, a third field for storing a last time when said value was last updated and a fourth field for storing at least one new value for said characteristic stored in said first field between said last time and said optimizing time, said value being used in a comparison to a second value associated with said characteristic and detected in a security area of said self-checkout system during a purchasing transaction, said comparison used as a security measure to confirm that a product placed in said security area during said purchasing transaction is the same product identified by said system after said system identifies said product via identification information input by a user of said system, said method comprising;

querying said database for products having a time difference between said optimizing time and said last time greater than a predetermined period and having at least one new value for said characteristic, wherein said query establishes a query result; and

revising said value for each product in said query result using said new value.

2.   The method according to claim 1, wherein said query looks for products having a plurality of new values.

3.   The method according to claim 1, wherein said query looks for products having a plurality of new values greater than a predetermined amount.

4.   The method according to claim 1, wherein said revising step comprises calculating a revised value for said value of said characteristic said new value.

5.   The method according to claim 4, further comprising storing said revised value in place of said value.

6.   The method according to claim 1, wherein said characteristic comprises a measurable characteristic of a product.

7.   The method according to claim 6, wherein said measurable characteristic comprises a physical characteristic of said product.

8.   The method according to claim 7, wherein said physical characteristic comprises a height of said product.

9.   The method according to claim 7, wherein said physical characteristic comprises a length of said product.

10.   The method according to claim 7, wherein said physical characteristic comprises a weight of said product.

11. The method according to claim 3, wherein said predetermined amount of new values is between 2-100.

12. The method according to claim 1, wherein said characteristic comprises a visual characteristic.

13. The method according to claim 1, wherein said characteristic comprises an auditory characteristic.

14. The method according to claim 1, wherein a plurality of characteristics each comprise a value.

15. An apparatus for optimizing characteristic information comprising a value for a characteristic of a product stored in a security database of a self-checkout system, said security database including update information comprising a time that said characteristic information has last been updated and correction history information including recorded samples each comprising a new value for said characteristic information, said characteristic information used to compare to a second value associated with said characteristic detected by a security device of said self-checkout system, said characteristic information used as a security measure to confirm that a product placed in said security area is the same product identified by said system after identification information of said product is input by a user of said system, said apparatus comprising;

querying means for querying said database for products having said update information older than a predetermined period of time and having correction history information for said measurable characteristic comprising recorded samples greater than a predetermined amount, wherein said query establishes a query result; and

revising means for revising said value of said characteristic information in said security database for each product in said query result using said recorded samples.

16. The apparatus according to claim 13, wherein said revising means comprises calculating means for calculating a revised value for said value of said characteristic information by averaging said new values of said recorded samples and storing means for storing said revised value in place of said value of said characteristic.

17. The apparatus according to claim 13, wherein said revising means is conducted at a second time, and wherein said second time is stored by a storing means in place of said time of said update information for evidencing the time at which a revision of said value of said characteristic information is conducted.

EVIDENCE APPENDIX

There is no evidence to be presented.

RELATED PROCEEDINGS APPENDIX

There are no related proceedings.